

# MCX-610

Wireless Repeater for PowerCode Communications



Installation Instructions

## 1. INTRODUCTION

The MCX-610 is a range extender designed to relay digital data between wireless devices and a control panel. Repeater links are required when the control panel is beyond the range of at least some of the devices and is therefore incapable of receiving transmissions directly (see Figure 1).

Devices whose message transmissions need to be repeated by the repeater must be enrolled to the repeater and to the control panel.

### Features

- Supports 1way and 2way\* keyfob and detector devices
- Mains powered
- 36 hours backup battery (rechargeable)
- Front and back tamper protected
- Enrolment and test buttons
- Diagnostic of installation performance
- Power fail indication (green LED)
- Activity (RF) indication (blue LED)
- Compatible with PowerMaxExpress PowerMaxComplete PowerMaxPro, PowerMax+ and PowerMax1 versions
- Indoor environment

**Note:** MCX-610 does not support wireless sirens and repeater chains.

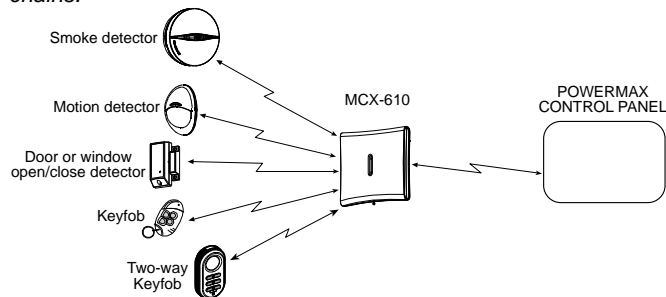


Figure 1 - Repeater Configuration

## 2. SPECIFICATIONS

### Frequency Band (MHz):

**Europe:** 868.95 and 433.92

**USA & Canada:** 315

**Antenna:** Diversity antenna

**Enrolled devices:** Up to 50 devices may be enrolled to the repeater.

**Communication Protocol:** PowerCode

**AC Power Supply:** AC to AC adaptor.

120 VAC, 60 Hz / 9 VAC, 0.35 A min. (in the U.S.A.)

230 VAC, 50 Hz / 9 VAC, 0.35 A min.

**For Europe:** Unit shall be powered by 9VAC only by suitably rated (min. 0.35A rated output, 49°C permitted ambient) SELV (safety extra low voltage) Limited Power Source (LPS) AC/AC transformer.

**Backup Battery:** 4.8-Volt 1300 mAh NiMH rechargeable.

**Caution:** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the manufacturer's instructions.

**Current drain at 5.7 VDC:** 90 mA

**Battery Backup Duration** (with fully charged 1300 mA/h battery)  
36 hours:

**LED indicator:** Green LED lights when AC power on. Blue LED lights during transmission.

**Supervision:** A periodic supervision message is transmitted automatically once every 15 minutes at 433.92 and 868.95 MHz and once every hour at 315 MHz.

### Complies with Standards:

**Europe CE:** EN 300220, EN 301489, EN 50130-4, EN 60950

**USA:** CFR 47 part 15,

**Canada:** RSS 210

**Operating Temperature:** 0°C to 49°C (32°F to 120°F).

**Dimensions (H x W x D):** 161x161x50mm (6-7/16 x 6-7/16 x 1-3/4 in)

**Weight:** (with battery): 470g (16.5 oz.)

## 3. FUNCTION

### 3.1 Service Messages

In addition to repeating messages of enrolled devices, the MCX-610 generates the following event codes automatically:

- Low Battery
- Tamper
- Supervision.

### 3.2 Indications

**Green LED:** lights when AC power is available

**Blue LED:** lights during transmission

\* The MCT-237 2way keyfob is supported by MCX-610 starting from MCT-237 partition version and above.

## 4. INSTALLATION

### 4.1 Repeater's Location Selection

- A. Install the repeater where good communication is assured with the PowerMax panel or alternative target receiver and with the transmitters deployed in the repeater's coverage area
- B. Make sure the repeater is mounted as high as possible above the floor and well away from metal chimneys, large metal cabinets, metal doors and reinforced concrete walls, all of which may reduce the communication range.
- C. Make sure that the location you have selected is near an electrical outlet.
- D. Mount the repeater in the selected location as shown in Figure 3.

### 4.2 Battery Pack Insertion

**Note:** The rechargeable backup battery must be connected before connecting to AC mains power.

If the backup battery is not connected or if a low battery condition exists when the cover is opened the repeater will beep every 10 seconds.

**Note:** Battery replacement should be done by a service man.

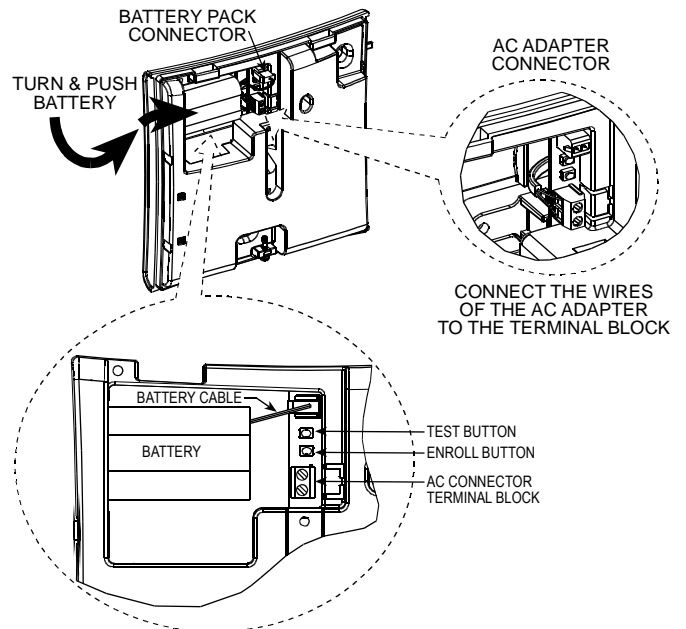


Figure 2 - Battery Pack Insertion

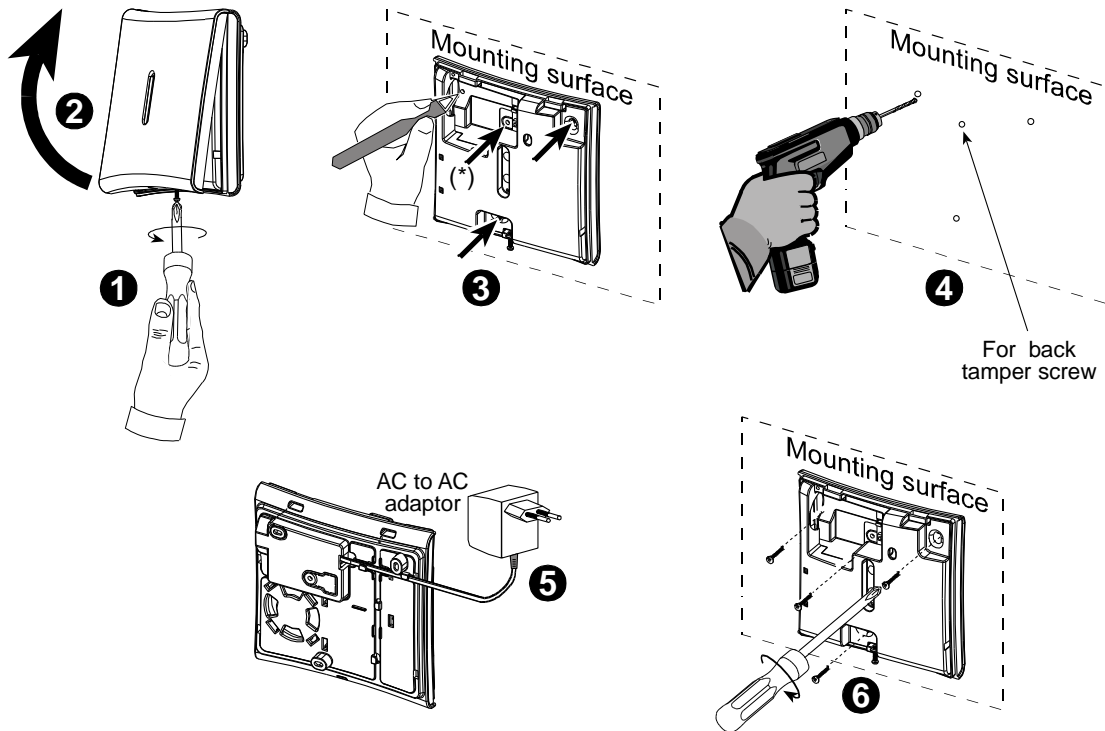


Figure 3 - Installation

### 4.3 Adding Devices

Devices whose message transmissions need to be repeated by the repeater must be enrolled both to the repeater and to the control panel. A total of 50 devices may be enrolled to the MCX-610. Follow the instructions below for enrolling a device.

- A. Remove the MCX-610 cover.
- B. Press the repeater's enroll button and release it (see Figure 2); the orange LED blinks for 10 sec.  
**Note:** Do not press the enroll button for longer than 3 sec.
- C. Initiate transmission from the device to be enrolled within 10 seconds. In response, the green LED will light and a "happy" beep will sound to indicate successful enrollment of the device.  
**Note:** For enrollment verification, the blue LED will blink when the device is activated.

- D. Repeat steps A to C for enrolling additional devices.

#### Notes:

- i) If the device was already enrolled in the MCX-610 and the enroll procedure is performed again for the same device to the same MCX-610, the red LED will light and a "sad" failure beep will sound.
- ii) In the event that enrollment is performed after 50 devices have already been enrolled, the green LED does not light and a "sad" failure beep will sound.
- iii) If no transmission has been initiated for more than 10 seconds, the orange LED will extinguish and a double beep will sound.
- iv) Device enrollment cannot be used to link repeaters.

### 4.4 Deleting Devices

#### Caution!

Deleting devices procedure must be performed without the cover.

The procedure for deleting devices enrolled to the repeater is performed for **all the devices collectively**. It is not possible to clear a specific device from the MCX-610 memory.

- A. Remove the MCX-610 cover.
  - B. Press the repeater's enroll button continuously. In response, the following successive stages should be observed:
    - i) The orange LED blinks and the buzzer beeps at a slow rate (3 sec.).
    - ii) The red LED blinks and the buzzer beeps at a slow rate (12 sec.).
    - iii) The red LED blinks and the buzzer beeps at a fast rate (5 sec.).
- At the end of the procedure, the red LED will light steadily for 3 sec. and a "happy" beep will sound to indicate successful deletion of all devices

### 4.5 Local Diagnostics Test

This function allows you to test the signal strength of the enrolled devices as seen by the repeater. Before testing, separate the base from the cover (see Fig. 3).

**Caution!** Local diagnostic test procedure must be performed without the cover.

Press the repeater's test button for 5 seconds; the green LED blinks for 10 minutes or until the tamper switch is restored. Three reception levels are sensed and indicated as illustrated in the table below.

Received Signal Strength Indication:

Reception	Buzzer Response
Strong	Happy Tune twice ( - - - — ) ( - - - — )
Good	Happy Tune ( - - - — )
Poor	Sad tune ( ——— )

**IMPORTANT!** Reliable reception must be assured. Therefore, "poor" signal strength is not acceptable. If you receive a "poor" signal from the device, re-locate it and re-test until a "good" or "strong" signal strength is received.

### 4.6 Cover Closure

See figure 4.

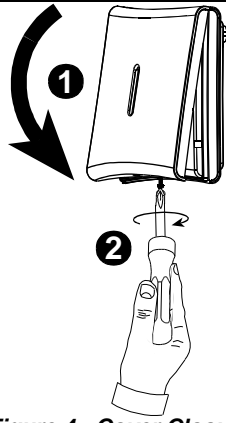


Figure 4 - Cover Closure

## 5. NOTES AND WARNINGS

### 5.1 Product Limitations

Visonic Ltd. wireless systems are very reliable and are tested to high standards. However there are some limitations to be considered:

- A. Receivers may be blocked by radio signals occurring on or near their operating frequencies
- B. Wireless equipment should be tested regularly to determine whether there are sources of interference and to protect against faults.

### 5.2 Compliance with Standards

#### Interference Prevention

This device complies with FCC Rules Part 15. Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may be received or that may cause undesired operation.

**WARNING!** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The digital circuitry of this device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one which supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

This device complies with the essential requirements and provisions of Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio and telecommunications terminal equipment.

## WARRANTY

Visonic Limited (the "Manufacturer") warrants this product only (the "Product") to the original purchaser only (the "Purchaser") against defective workmanship and materials under normal use of the Product for a period of twelve (12) months from the date of shipment by the Manufacturer.

This Warranty is absolutely conditional upon the Product having been properly installed, maintained and operated under conditions of normal use in accordance with the Manufacturers recommended installation and operation instructions. Products which have become defective for any other reason, according to the Manufacturers discretion, such as improper installation, failure to follow recommended installation and operational instructions, neglect, willful damage, misuse or vandalism, accidental damage, alteration or tampering, or repair by anyone other than the manufacturer, are not covered by this Warranty.

The Manufacturer does not represent that this Product may not be compromised and/or circumvented or that the Product will prevent any death and/or personal injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. The Product, properly installed and maintained, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

**THIS WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS OR LIABILITIES, WHETHER WRITTEN, ORAL, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. IN NO CASE SHALL THE MANUFACTURER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS WARRANTY OR ANY OTHER WARRANTIES WHATSOEVER, AS AFORESAID.**

**THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR FOR LOSS, DAMAGE, OR EXPENSE, INCLUDING LOSS OF USE, PROFITS, REVENUE, OR GOODWILL, DIRECTLY OR INDIRECTLY ARISING FROM PURCHASER'S USE OR INABILITY TO USE THE PRODUCT, OR FOR LOSS OR DESTRUCTION OF OTHER PROPERTY OR FROM ANY OTHER CAUSE, EVEN IF MANUFACTURER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.**

**THE MANUFACTURER SHALL HAVE NO LIABILITY FOR ANY DEATH, PERSONAL AND/OR BODILY INJURY AND/OR DAMAGE TO PROPERTY OR OTHER LOSS WHETHER DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, BASED ON A CLAIM THAT THE PRODUCT FAILED TO FUNCTION.**

However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty, **THE MANUFACTURER'S MAXIMUM LIABILITY (IF ANY) SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT**, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

When accepting the delivery of the Product, the Purchaser agrees to the said conditions of sale and warranty and he recognizes having been informed of.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so these limitations may not apply under certain circumstances.

The Manufacturer shall be under no liability whatsoever arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs.

The Manufacturers obligations under this Warranty are limited solely to repair and/or replace at the Manufacturer's discretion any Product or part thereof that may prove defective. Any repair and/or replacement shall not extend the original Warranty period. The Manufacturer shall not be responsible for dismantling and/or reinstallation costs. To exercise this Warranty the Product must be returned to the Manufacturer freight pre-paid and insured. All freight and insurance costs are the responsibility of the Purchaser and are not included in this Warranty.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products. This Warranty is exclusive to the original Purchaser and is not assignable.

This Warranty is in addition to and does not affect your legal rights. Any provision in this warranty which is contrary to the Law in the state or country where the Product is supplied shall not apply.

**Warning:** The user must follow the Manufacturer's installation and operational instructions including testing the Product and its whole system at least once a week and to take all necessary precautions for his/her safety and the protection of his/her property.

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### W.E.E.E. Product Recycling Declaration

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. **This product is not to be thrown away with everyday waste.**

Directive 2002/96/EC Waste Electrical and Electronic Equipment.

The technical documentation as required by the European Conformity Assessment procedure is kept at:

UNIT 6 MADINGLEY COURT CHIPPENHAM DRIVE KINGSTON MILTON KEYNES MK10 0BZ. Telephone number: 0870 7300800, Fax number: 0870 7300801



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